IMPLANTABLE CONTINUOUS GLUCOSE MONITORING AND GLUCOMETRIC PARAMETERS: PRELIMINARY DATA FROM REAL-LIFE

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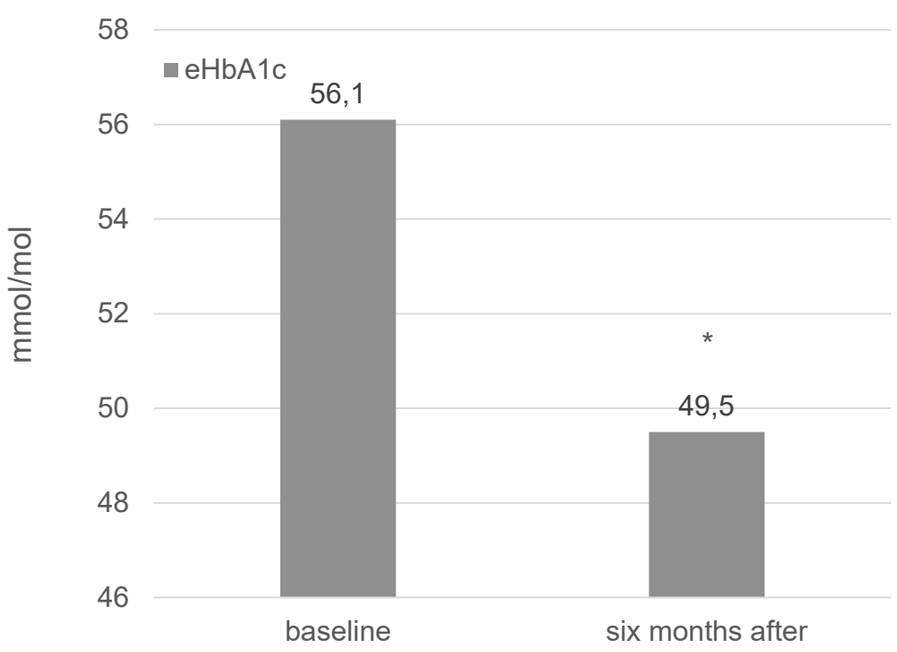
Background Eversense is a novel implantable Continuous Glucose Monitoring sensor providing accurate readings up to six months. The efficacy of Eversense on glycemic control and HbA1c has been described in the Precise studies. We have designed our research with the aim to evaluate if the system improves additional glucometric parameters in subjects with type 1 diabetes (T1D) in the real-life.

Methods This is a multicenter observational study. Glucometric data were downloaded from the diabetes management system and collected at the time of the first implantation (baseline visit) and after 6 months, as mean of 2 weeks. Variables evaluated were time in range (TIR), above (TAR) and below range (TBR), mean daily glucose and standard deviation. According to last guidelines indications, the range for TIR was set to 3.9-8.9 mmol/L. Anthropometric and clinical variables were also collected.

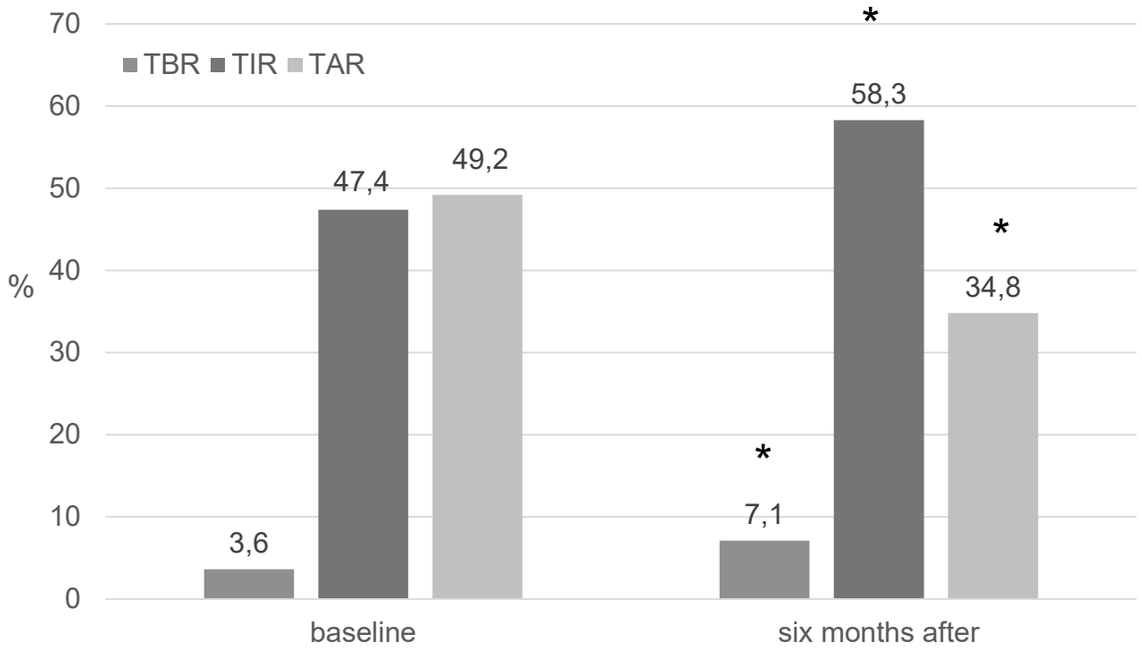
Results A total of 21 patients with T1D were evaluated. After six months a statistically significant reduction of estimated HbA1c and mean glucose were observed: eHbA1c from 56.1±8.2 to 49.5±6.4 mmol/mol, Δ= -6.6 mmol/mol, P=0.004; mean glucose from 9.2±1.4 to 7.9±1.3 mmol/L, Δ= -1.3mmol/l; P=0.002. TIR increased from 47.4±12.6 to 58.3±15.3% (P=0.02), while TAR was reduced from 49.2±14.5 to 34.8±17.6% (P=0.001). TBR increased from 3.6±2.9 to 7.1±4.9% (P=0.01). Reduction of glucose variability was also observed (SD from 3.3±0.6 to 2.8±0.7 mmol/l; P=0.02).

Conclusions
In our preliminary data from a sample of quite well-controlled T1D patients, Eversense increases TIR and decreases TAR, while increasing TBR. Information from real life using Eversense may be advantageous to define new algorithms in the management of diabetes.

Clinical characteristics of DT1 population	n 21
Age, years	32±11
Gender, M %	62
BMI, kg/m^2	24.0±1.4
CSII, %	70
HbA1c, mmol/mol	57.4 ±7.5
Daily Insulin, IU	39±12



Paired T-test analysis, * p<0.05



Paired T-test analysis, * p<0.05

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